REMARKS

In this paper, claims 1, 20 and 22 are currently amended. After entry of the above amendment, claims 1-38 are pending.

The applicant appreciates the allowance of claims 8-12 and 28-33.

Claims 1-7, 13, 18, 20-28 and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ethington (US 5,681,234) in view of Browning (US 5,261,858). This basis for rejection is respectfully traversed.

Independent claims 1, 20 and 22 have been amended to clarify that, for at least one shift command requesting a shift from an origin speed stage to a destination speed stage that requires the operation of both the first transmission and the second transmission, the first transmission and the second transmission are set temporarily in a speed stage outside of a range between the origin speed stage and the destination speed stage. For example, in the embodiment of gear shifting shown in Table 2 of the specification, a request to shift one step down when the chain currently engages the 46-tooth front sprocket and the 33-tooth rear sprocket with a gear ratio of 1.39 (the origin speed stage) ultimately causes the chain to engage the 34-tooth front sprocket and the 29-tooth rear sprocket with a gear ratio of 1.17 (the destination speed stage). If the front derailleur is operated first, then the chain will engage the 34-tooth front sprocket and the 33-tooth rear sprocket with a gear ratio of 1.03, which is outside the range 1.17-1.39. Similarly, if the rear derailleur is operated first, then the chain will engage the 46-tooth front sprocket and the 29-tooth rear sprocket with a gear ratio of 1.59, which also is outside the range 1.17-1.39.

Ethington discloses an automatic bicycle transmission wherein sprocket combinations representing successively increasing gear ratios may be stored in a table, and wherein a control unit operates front and rear bicycle derailleurs to sequentially upshift from the lowest to the highest gear ratio and sequentially downshift from the highest to the lowest gear ratio. The office action properly notes that Ethington does not disclose the feature or generating information for causing the first

transmission and the second transmission in combination to move a total of M times to reach the destination speed stage, where M is an integer less than N.

Browning likewise discloses an automatic bicycle transmission wherein front and rear derailleurs are operated to produce a desired gear ratio. However, as discussed at col. 5, line 10 through col. 6, line 15, Browning expressly forbids any shift that allows the front and rear derailleurs to place the chain on a front and rear sprocket combination that would produce a gear ratio outside the range between the origin and destination gear ratios. Accordingly, Browning expressly teaches away from the proposed combination.

Claims 14-16 and 35-37 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ethington in view of Browning and Colbert, et al (US 5,213,548). This basis for rejection is respectfully traversed for the same reasons noted above. Furthermore, there is no evidence or suggestion that Colbert's sensor would increase efficiency of a system such as that disclosed in either Ethington or Browning.

Claims 17, 19 and 38 were rejected under 35 U.S.C. §103(a) as being unpatentable over Ethington in view of Browning and Spencer, et al (US 6,047,230). This basis for rejection is respectfully traversed for the same reasons noted above. Furthermore, there is no evidence or suggestion that Spencer, et al's cadence sensor would increase efficiency and safety of a system such as that disclosed in either Ethington or Browning.

Accordingly, it is believed that the rejections under 35 U.S.C. §103 have been overcome by the foregoing amendment and remarks, and it is submitted that the claims are in condition for allowance. Reconsideration of this application as amended is respectfully requested. Allowance of all claims is earnestly solicited.

Respectfully submitted,

James A. Deland
Reg. No. 31,242

DELAND LAW OFFICE
P.O. Box 69
Klamath River, California 96050
(530) 465-2430